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Subject: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Fri, 01 Oct 2010 22:37:28 GMT  
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Hi all,

I'm trying to use the scatter ctrl in order to retrieve the drawing that I will insert in a report.

When I put a scatter class in the layout designer, all displays right.  
But when I use GetDrawing on another scatter instance with same data and config, all fonts are very small and the data points aren't visible any more (to small I think).

What method should be called in order get the same results as displayed on the screen when used as a control ?

I have to admit I don't understand anything about the zoom functions in controls FontZ, xxxxZ, .....  
How does all this work ?

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 12:05:49 GMT  
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Hello Didier

Maybe this could serve you:

Report r;

```
r.NewPage();
Topic t = GetTopic("topic://MyPackage/MyReport$en-en");
String qtf = t.text;
Image image = scatter.GetImage(2);
{
    DrawingDraw dw(width, height);
    dw.DrawImage(0, 0, width, height, image);
    QtfRichObject pict(CreateDrawingObject(dw.GetResult(), Size(width, height), Size(width, height)));
```

```
String qtfG;
String token = "[Graph]"
int pos = qtf.Find(DeQtf(token));
qtfG << qtf.Left(pos) << pict << qtf.Mid(token.GetCount());
```

```
r << qtfG;
}
```

The report design is done in Topic t, that contains a "[Graph]" to be replaced by the Scatter in image.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sat, 02 Oct 2010 15:14:09 GMT  
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Hi Koldo,

As a matter of fact , I added a 'AddDrawing' method to my report generator package:

```
void ReportGenerator::replaceDrawing(const StringType& label, const Upp::Drawing& inputDrw,
Upp::Size destSize )
{
    Upp::String s;
    if (!inputDrw.IsNullInstance() )
    {
        if (destSize.cy != 0)
        {
            if ( inputDrw.GetSize().cx*100/inputDrw.GetSize().cy > destSize.cx*100/destSize.cy )
            {
                s << AsQTF(CreateDrawingObject(inputDrw, destSize.cx,0));
            }
            else
            {
                s << AsQTF(CreateDrawingObject(inputDrw, 0, destSize.cy));
            }
        }
        else
        {
            s << AsQTF(CreateDrawingObject(inputDrw));
        }
    }
    else
    {
        replaceImage(label, ReportGeneratorImg::EMPTY_IMG(), destSize);
    }
    replaceVar(label,s);
};
```

The code is inspired from another Upp package from Sergei I think.  
I preferred to use the a DrawingObject object instead of passing by an intermediate Image like in you're example: this keeps the pdf files as light as possible.

This works very well with the PieChart ctrl (see the sample report I joined ) but with the Scatter

ctrl, it doesn't work: I see the graph but the points are too small to appear and the fonts are almost unreadable

I know something is done when `CtrlLayoutxxx()` methods are called but I don't understand the philosophy of the '`xxxZxxx()`' methods which are used to counter the problem I have and since the `PieChart` and `Scatter` don't behave the same ... I'm stuck for the moment

BTW: the report joined is completely generated from SQL data including images and charts.

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## File Attachments

1) [testReport.pdf](#), downloaded 461 times

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Subject: Re: Scatter : `getDrawing` !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 19:26:29 GMT  
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Sorry Didier

I cannot see where is the Scatter in your code.

Could you include a test case?

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Subject: Re: Scatter : `getDrawing` !!!! help !!!!  
Posted by [Didier](#) on Sat, 02 Oct 2010 20:21:05 GMT  
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Hi Koldo,

I've been looking in to it this afternoon, and there is a bug in Scatter.

The CIRCLE mark seems to malfunction in some circumstances: other marks look good while circle doesn't appear ??.

As far as I've looked, it seems that there are some "magic numbers" in the Scatter ctrl.

For example:

```
Drawing Scatter::GetDrawing() const
{
    DrawingDraw ddw(6*GetSize());
    SetDrawing (ddw, 6);
    return ddw;
}
```

What is the '6' value for ???

While in the 'GetImage()' function, there is a scale parameter...

I'll make a test case (some other magic numbers are hanging around I think).

Asta luego

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 21:48:58 GMT  
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Hello Didier

I have included GetDrawing() (excellent idea, the pdfs are smaller now ), and it have worked very well for me, including circles. I have changed the Drawing scale and the results have been the same, I cannot find "magic" numbers .

The previous code is now simpler:

Report r;

```
r.NewPage();
Topic t = GetTopic("topic://MyPackage/MyReport$en-en");
String qtf = t.text;
Drawing drw = scatter.GetDrawing();
{
    QtfRichObject pict(CreateDrawingObject(drw, Size(width, height), Size(width, height)));

    String qtfG;
    String token = "[Graph]"
    int pos = qtf.Find(DeQtf(token));
    qtfG << qtf.Left(pos) << pict << qtf.Mid(token.GetCount());

    r << qtfG;
}
```

I think scaling is much less important in a Drawing than in a Image.

Could you include a simple test case?

Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sun, 03 Oct 2010 09:40:34 GMT  
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Hi Koldo,

In fact I had two problems:

- One with the font sizes ==> I corrected this one by adding  
`graph1.SetRect(0,0,600,350);`  
the default size was to big, so when resizing ... the fonts got to small

- Display of CIRCLE marks: ==> this one is still hanging around.

I'm doing a test case and it works for the moment ....

I think my problem is linked to the fact that the image is inserted inside a table.

A small correction in scatter makes it work again:

```
void Scatter::Circle(Draw& w, const int& scale, const Point& cp, const int& size, const  
class::Color& markColor)const  
{  
    Point cp2 = cp;  
    cp2.x++;  
    w.DrawLine(cp,cp2,fround(scale*size/6),markColor);  
}
```

I will enhance my test case and check this today ...

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sun, 03 Oct 2010 10:53:57 GMT  
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Hi Koldo,

I've finished my test case but it still works as it should ?!?

I also modified my app in order to execute the same code when displaying the report and I have some differences:

- the lines don't get displayed the same way (and circles are drawn using lines)

I joined an image to show what I'm talking about.

It looks like my app has some different settings ( DPI or something like that ??) which modifies line drawing.

But I never touch such parameters (at least not intentionally )

What do you think ?

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#### File Attachments

1) [testReport.jpeg](#), downloaded 813 times

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Subject: Re: Scatter : getDrawing !!!! help !!!!

Posted by [koldo](#) on Sun, 03 Oct 2010 18:43:29 GMT

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Hello Didier

To answer you something useful I need desperately a test sample .

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Subject: Re: Scatter : getDrawing !!!! help !!!!

Posted by [Didier](#) on Sun, 03 Oct 2010 19:03:02 GMT

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Hi Koldo,

I found the problem: it's linked with the Painter package.

I made a test case:

- without Painter : all is OK
- With Painter ... Points are not displayed and grid isn't displayed correctly.

NB: A complete rebuild must be done when adding/removing Painter package in order to see the effects.

In my test case I use Replace() function to get as close as possible to Report generation.

So is it a Scatter bug, a Painter bug ???

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#### File Attachments

1) [ScatterBug\\_TestCase.tar.gz](#), downloaded 330 times

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Mon, 04 Oct 2010 08:24:06 GMT  
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Hello Didier

Well done!. Now it has been easier to find the problem.

This the old circle implementation:

```
w.DrawLine(cp,cp,fround(scale*size/6),markColor);
```

and this is the new:

```
w.DrawLine(cp.x,cp.y,cp.x+1,cp.y,fround(scale*size/6),markColor);
```

As line length was 0, Draw painted it but Painter does not .

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Mon, 04 Oct 2010 21:18:49 GMT  
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Hi Koldo,

Thank's for the quick reply, but ... I already tried this one:

```
{  
  Point cp2 = cp;  
  cp2.x++;  
  w.DrawLine(cp,cp2,fround(scale*size/6),markColor);  
}
```

And although it seems to work at first, some points don't get drawn (because of rounding probably).

So it's not sufficient and anyway the grid doesn't display correctly neither.

==> Maybe this is more a Painter issue with line drawing.

Also drawing a real circle, although much less efficient, would be a better solution for the CIRCLE mark I think

One good point: no matter if Painter is here or not, the Pdf export function creates the same output (which is correct).

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Tue, 05 Oct 2010 06:10:50 GMT  
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Hello Didier

some points don't get drawnI will draw circles instead of short lines.

and anyway the grid doesn't display correctly neitherI think you say gray grid is straight lines, without dashes in Painter and Pdf...I know why . It is not a problem of Painter or Scatter. This is because Draw does not support dashed lines... well yes, with a trick in the color.  
Today I will insert real dashed lines .

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Tue, 05 Oct 2010 17:03:38 GMT  
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Hi Koldo,

Fantastic

I didn't known Draw didn't support dashed lines.

What is the trick with dashes and colors ?

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Tue, 05 Oct 2010 21:32:48 GMT  
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Didier wrote on Tue, 05 October 2010 19:03Hi Koldo,

Fantastic

I didn't known Draw didn't support dashed lines.

What is the trick with dashes and colors ?

Hello Didier

Sorry, it is not colors, it is line width. A line with negative width means that is dashed.

Look at [http://www.ultimatepp.org/src\\$Draw\\$Draw\\$en-us.html](http://www.ultimatepp.org/src$Draw$Draw$en-us.html) in DrawLineOp().

However this Draw behavior is lost in Painter and Pdf. This is the reason the grid was lost.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Wed, 06 Oct 2010 20:24:49 GMT

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Hi Koldo,

Now even with Painter package, CIRCLE and grid polyline work

I have to admit I didn't expect you would go into drawing each individual dash

Tchao !

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Thu, 07 Oct 2010 06:29:36 GMT  
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Yes Didier

I have to admit I didn't expect you would go into drawing each individual dash. If somebody wants dashed lines and works in Draw, s/he can take the code from Scatter. The code also cares that dashed lines goes "softly" in polylines.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Thu, 07 Oct 2010 20:43:00 GMT  
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Hi Koldo,

After taking a look at PlotCtrl, I saw that it had dashes while having Painter.  
So I looked at the code and found out that Painter supports dashes (they are drawn exactly the same way you did):

```
inline Painter& Painter::Dash(const Vector<double>& dash, double start)
{
    if(dash.GetCount() & 1) {
        Vector<double> dash1;
        dash1.Append(dash);
        dash1.Append(dash);
        DashOp(dash1, start);
    }
    else
        DashOp(dash, start);
    return *this;
}
```

Though you would appreciate this info

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Fri, 08 Oct 2010 06:23:28 GMT  
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Didier wrote on Thu, 07 October 2010 22:43Hi Koldo,

After taking a look at PlotCtrl, I saw that it had dashes while having Painter.  
So I looked at the code and found out that Painter supports dashes (they are drawn exactly the same way you did):

```
inline Painter& Painter::Dash(const Vector<double>& dash, double start)
{
    if(dash.GetCount() & 1) {
        Vector<double> dash1;
        dash1.Append(dash);
        dash1.Append(dash);
        DashOp(dash1, start);
    }
    else
        DashOp(dash, start);
    return *this;
}
```

Though you would appreciate this info

Hello Didier

Quote:If somebody wants dashed lines and works in DrawYes, I know Painter includes dashes .  
As Draw does not include them, I added them.

To be as fast as possible, Scatter uses Draw.

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